FRIEDMAN & BRUYA, INC. ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Beth M. Albertson, M.S. Bradley T. Benson Kelley D. Wilt 3012 16th Avenue West Seattle, WA 98119-2029 TEL: (206) 285-8282 FAX: (206) 283-5044

	TRANSMETTAL
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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January 9, 1997

Gerry Thompson, Project Manager Alaskan Copper Works 628 South Hanford Seattle, WA 98134

Dear Mr. Thompson:

Included are the results from the testing of material submitted on December 31, 1996 from your Acid Samples, PO #M55646 project.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Kurt Johnson Chemist

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Enclosures ACU0109R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: January 9, 1997
Date Received: December 31, 1996
Project: Acid Samples, PO #M55646

Date Samples Extracted: January 6, 1997 Date Extracts Analyzed: January 7, 1997

RESULTS FROM THE ANALYSIS OF PROCESS WATER SAMPLES FOR TOTAL METALS BY INDUCTIVELY COUPLED PLASMA (ICP) (METHOD 6010)

Samples Processed Using Method 3005A Results Reported as µg/L (ppb)

	ing galago gajago basabbo Topo		
Sample ID	M55646 A Small Tank	M55646 B <u>Large</u>	Method Blank
Analyte:			
Arsenic	20	24	4
Cadmium		(4	\ <1
Chromium	6,400	8,200	<1,
Lead	14	6.2	
Silver	\	ব	
Copper	6,500	810	
Nickel	9,400	7,300	
Zinc	7.6	7.1	
Iron	38,000	42,000	<10

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: January 9, 1997
Date Received: December 31, 1996
Project: Acid Samples, PO #M55646

QUALITY ASSURANCE RESULTS FOR TOTAL METALS BY INDUCTIVELY COUPLED PLASMA (ICP) (METHOD 6010)

Laboratory Code: 74681 (Duplicate)

Analyte:	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Arsenic	mg/L(ppm)	24	23		0-20
Cadmium	mg/L(ppm)	<i< td=""><td><1</td><td>nm</td><td>0-20 0-20</td></i<>	<1	nm	0-20 0-20
Chromium	mg/L(ppm)	8,200	7,500	9	0-20
Lead	mg/L(ppm)	6.2	5.3	16	0-20
Silver	mg/L(ppm)	<1	<1	nm	0-20
Copper	mg/L(ppm)	810	750	8	0-20
Nickel	mg/L(ppm)	7,300	6,700	9	0-20
Zinc	mg/L(ppm)	7.1	7.1	0	0-20
Iron	mg/L(ppm)	42,000	40,000	5	0-20

Laboratory Code: Spike Blank

	Reporting Units	Spike Level	% Recovery		Acceptance	Relative Percent
Analyte:			MS	MSD	Criteria	Difference
Arsenic	mg/L (ppm)	10	96	95	80-120	1
Cadmium	mg/L (ppm)	5	103	103	80-120	0
Chromium	mg/L (ppm)	5	95	95	80-120	0
Lead	mg/L (ppm)	10	96	96	80-120	0
Silver	mg/L (ppm)	2	84	86	50-150	2
Copper	mg/L (ppm)	5	96	97	80-120	1
Nickel	mg/L (ppm)	10	95	96	80-120	1
Zinc	mg/L (ppm)	5	95	96	80-120	1
Iron	mg/L (ppm)	10	104	104	80-120	0

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.